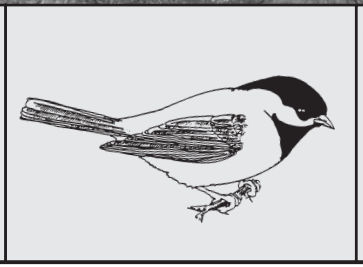
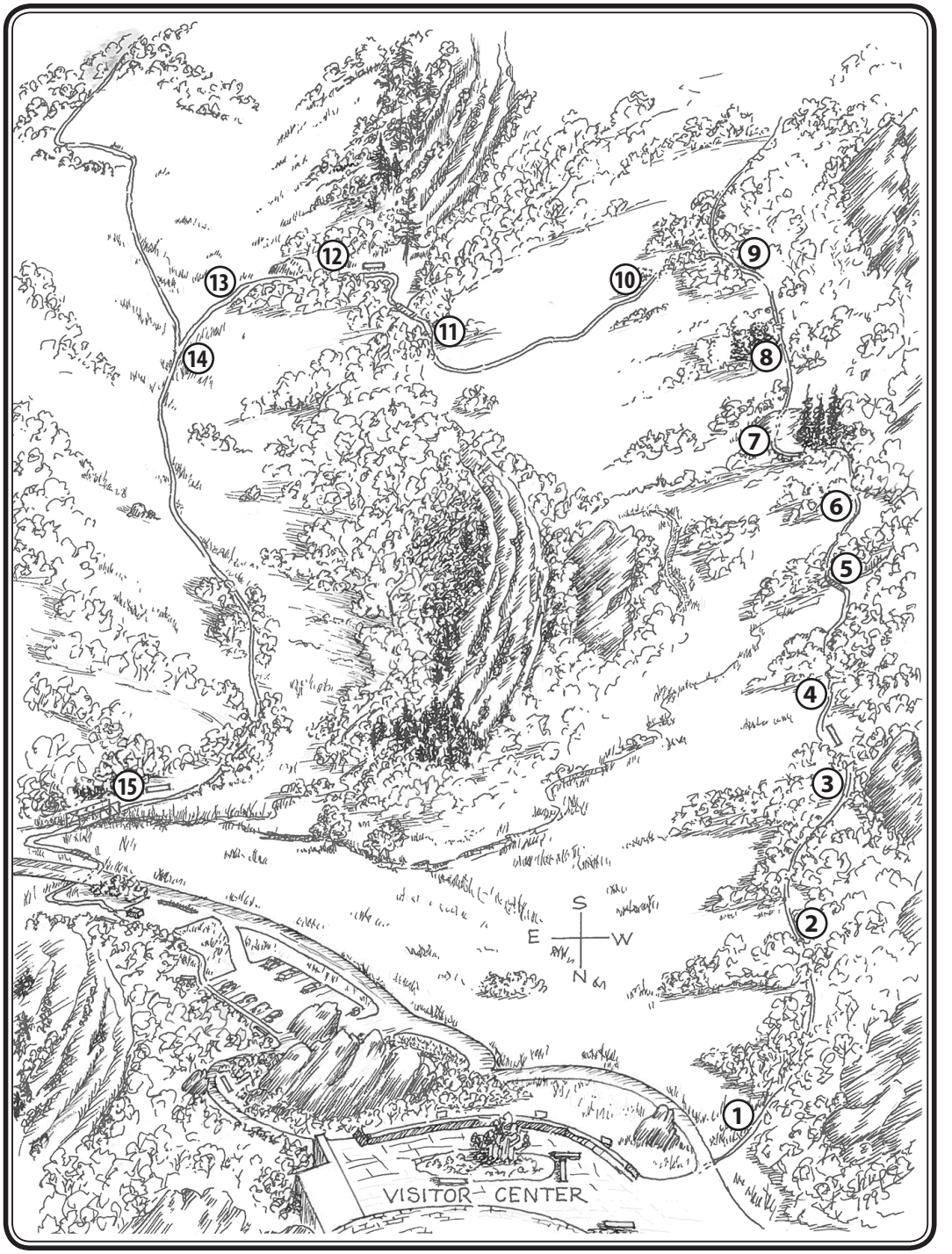
COLORADO PARKS & WILDLIFE

Willow Creek Trail at Roxborough State Park





ROXBOROUGH STATE PARK - *Willow Creek Trail*

Willow Creek Trail Guide

Roxborough State Park is located in the "transition zone," an area of gradual change from the plains to the mountains. The different habitats found here provide homes for many plants and animals. As you hike through the trees, rocks and open areas, you will see several distinct natural communities, varying from oak to conifer to cottonwood, from dry grassland to rocky canyon.

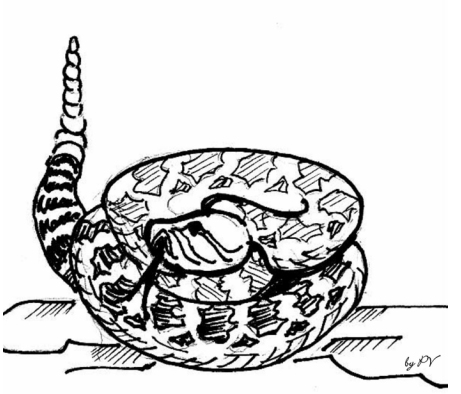
This self-guided hike along the easy 1.4 mile Willow Creek Trail will take you through an environment with a rich variety of trees and other plants, as well as birds and other animals.

The Willow Creek Trail is known for its great abundance of wildflowers, especially during the spring and early summer. We hope this trail guide will assist you in becoming familiar with some of them. Selected plants, as well as the months and locations where they may be found, as listed on pages 20 and 21.

REMEMBER, all the Park's plants, animals and rocks are protected by law. Collecting and rock climbing are not allowed at Roxborough State Park.

Please STAY ON THE TRAIL and watch where you walk. Rattlesnakes and Poison Ivy can be found along the trail.

Start your hike a few steps west of the Visitor Center where you see the sign directing you to the Willow Creek Trail.



Willow Creek Trail Stop 1

Scrub (Gambel) oak lines both sides of the trail and is one of the most common plants in Roxborough. Unlike the mighty oaks of literature, scrub oak is usually small and bush-like. Some oak trees grow taller, depending upon the richness of the soil, the available moisture and their genetic composition. Scrub jays and Spotted towhees are birds which are found among the oaks.

SCRUB OAK

While scrub oaks produce acorns, most new growth comes from suckers growing from roots which radiate from established trees. The result is closely-spaced groves of scrub oak. The acorns would produce new trees if allowed to fall to the ground and germinate, but most are eaten by deer, squirrels and other animals. In earlier times acorns were gathered as food by native people. After leaching out the tannin (a bitter-tasting substance) the nuts were ground and used with other grains as flour, or boiled and eaten as gruel.

WESTERN SCRUB JAY

Scrub jays are found in widely separated parts of the U.S., from California's Pacific Coast to Florida, but only in areas of scrub oak. They have strong family bonds. Young birds often remain with parents and aid in feeding succeeding fledglings.

Spotted towhees are also found among scrub oak. They sing from the upper branches but also scratch for insects on the forest floor. People sometimes mistake their scratching sounds for the rustling of a small animal or snake.

SPOTTED TOWHEE

Willow Creek Trail Stop 2

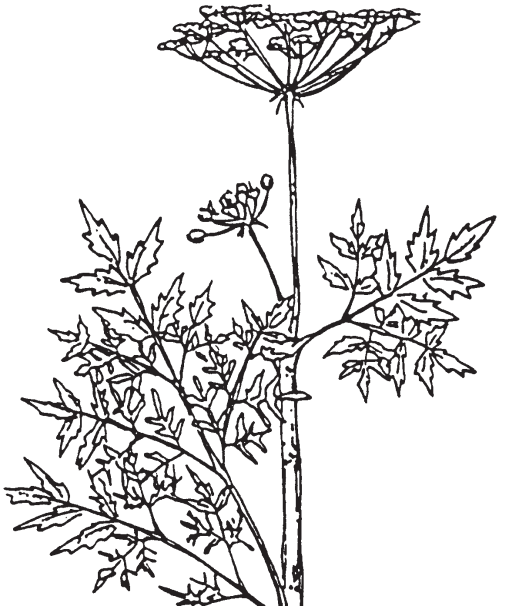
Poison ivy is found throughout the Park. Along the Front Range it is a low woody plant, unlike the climbing vines found in other parts of the country. However, all have the characteristic "leaves of three." Many people develop an itchy rash after touching poison ivy. Immediately washing the area with soap and water may help to remove the oily sap which carries the skin irritant.

POISON IVY

LEAVES OF THREE – LET IT BE!

Living with nature, early inhabitants learned which plants to avoid and which to use. The Plains Indians avoided poison ivy if possible. If a rash occurred they sprinkled it with ground milkvetch, a member of the pea family. Others used pounded gumweed leaves or a gumweed broth to treat the rash. Curiously, birds eat the poison ivy's white berries with no ill effect.

During the spring and early summer new parsley-like leaves of the poison hemlock are plentiful among the oaks and throughout the Park. A tea made from poison hemlock was used to execute Socrates. If taken internally it can cause paralysis, respiratory failure and death. During the growing season, hemlock may reach a height of six feet or greater.



POISON HEMLOCK

Willow Creek Trail Stop 3

Notice the gray lichens growing on the large Fountain Formation sandstone beside the trail. Lichens are composed of algae and fungi living together in a mutually beneficial (symbiotic) relationship. Many scientists believe that fungi, which lack chlorophyll and are unable to make food, use food made by the algae. The fungi provide support, protection and water storage for the algae. Severe air pollution will kill lichens. They are particularly sensitive to carbon monoxide from automobiles. The oaks in this area are much larger, perhaps due to abundant water or more fertile soil.

Prominent plants here include large, feathery bracken ferns and bedstraw, best seen during May and June. Bracken ferns thrive at the moist and sheltered base of the sandstone. Native people made tea from bracken roots and took it from cramps and diarrhea. They smoked the powdered leaves for headaches. Root poultices were applied to burns and sores. Bracken fern may be cancer-causing when taken in quantity; mature fronds are poisonous to cattle.

BRACKET FERN

BEDSTRAW

Early settlers used bedstraw as mattress filler. It is sweet-smelling and the hooked corners of its square stems and leaves catch on each other, preventing "lumping" or "bunching." Feel the hooked stems and leaves, but don't pull up any plants.

Willow Creek Trail Stop 4

Looking east across the meadow, the pale sandstones to the left and right are part of the Lyons Formation, named for Lyons, Colorado. Lyons sandstone has been used extensively in buildings across the state, including the University of Colorado at Boulder. The Lyons was formed between 280 and 230 million years ago. The more distant rock formations, also very light colored, are part of the Dakota Hogback which was formed later, between 135 and 70 million years ago. Willow Creek flows out of the Park through the low spot between the hogbacks.

Golden eagles, America's largest raptor with a wingspan of over seven feet, are sometimes seen soaring over the rocks, hunting for small mammals, snakes, or birds.

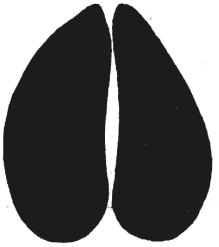
LOOKING EAST

PRICKLY PEAR

Prickly pear cactus is growing beside the bench at the side of the Trail. This flat, spiny cactus is common in the arid lands of the west and is specially adapted to store water. Its fruit, new joints and pulp are all edible. Jelly is made from the fruit. Many North American plants are imports from the Old World, but this American native reversed the tide. Today it is cultivated in Spain for its nutritional and commercial value.

Willow Creek Trail Stop 4 continued

You may not actually see many of the animals which make their homes in the Park, but you should see "signs" that they have passed this way. You may see droppings (scat) or tracks. Tracks are often observed along the trail, particularly when the ground is slightly muddy or snow-covered. Mule deer tracks are most common, but you could see any of the tracks shown below.



ELK 4"

MULE DEER 3"

MOUNTAIN LION 3"
FRONT FOOT

RACOON 3" HIND FOOT

BLACK BEAR 7" HIND FOOT

COYOTE 2.5" FRONT FOOT

RED FOX 2" FRONT FOOT

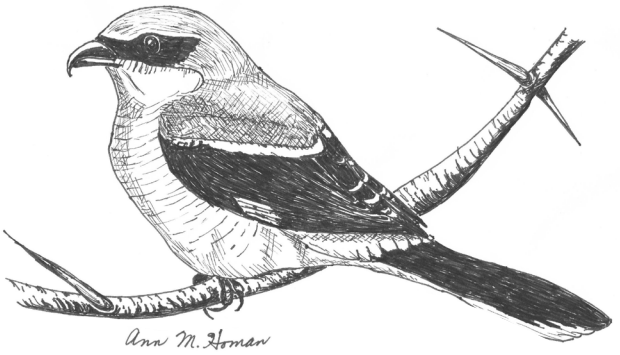
Willow Creek Trail Stop 5

Notice the shrubby wild plum and hawthorn, growing beside the footbridge across this stream bed. Wild plum blossoms which appear in the spring have a delightful fragrance and the plums make a delicious jelly. Wild plums are prized as food by many animals, including black bears. Wild plums have short, thorn-like protrusions along the branches, but they are much shorter and less threatening than those on the hawthorns.

WILD PLUM WITH FRUIT

HAWTHORN WITH FRUIT

Hawthorns are unmistakable with their long sharp thorns. They grow throughout the Park and their red berries (haws) provide food for many animals. A bird called the Northern Shrike likes to frequent the park. They are known for catching insects and impaling them on the Hawthron's sharp thorns and come back later to eat them.



NORTHERN SHRIKE

Willow Creek Trail Stop 6

The Rocky Mountain maple is much smaller than the maples found elsewhere, though its leaves and winged seeds are uniquely maple. This shrubby tree with its many stems and smooth gray bark may grow 12-15 feet in height. The young twigs, buds and leafstalks are red. In the fall its leaves turn a bright, vivid red. Maples favor canyons and moist hillsides. Mule deer enjoy browsing new maple growth.

ROCKY MOUNTAIN MAPLE

CHOKECHERRY

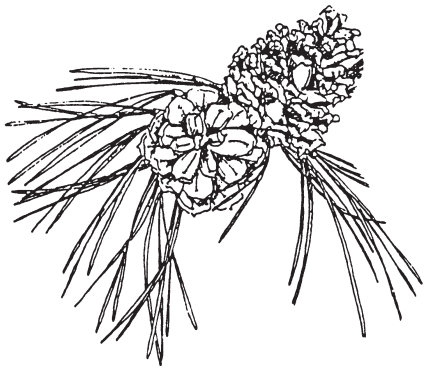
Chokecherry blooms in the spring and is a shrub which sometimes grows to almost tree-like size, depending upon habitat. It is found throughout the Park. When ripe the dark red or black choke cherries are an important food for many animals. The fruit is sour but makes delicious jelly or wine. It grows in thickets in valleys and on hillsides. Cherry Creek in Denver was named for the chokecherries which lined its banks when miners and settlers first arrived.

Beds of Canada violets, with nearly white flowers and heart-shaped leaves, do well in the sheltered, cool shade of the trees here and at many places along the trail. While they bloom in May, their heart-shaped leaves can be seen throughout the growing season.

Willow Creek Trail Stop 7

DOUGLAS FIR

The conifers to the right of the trail and atop the Lyons Formation to the east are Ponderosa pine, Rocky Mountain juniper and Douglas fir. Conditions here are right for them to flourish: the elevation is higher, the soil is very shallow with rocks close to the surface and the slopes are relatively barren and steep. These trees need moisture and their seeds must start on bare soil, away from grassy cover. The cracks in the rock hold water and grass doesn't grow in the rocky, shallow soil on these steeper slopes. This combination of moisture and no grass is ideal for cone-bearing tree seedlings to grow.



PONDEROSA PINE

Ahead, the trail passes over a nearly flattened sandstone outcrop which is part of the Fountain Formation.

Look for large rock squirrels basking atop the rocks. Listen for their high-pitched calls. Sometimes they are seen in the oaks, feeding on acorns.

ROCK SQUIRREL

Willow Creek Trail Stop 8

The dead trees on the left with the light-colored bark are aspen. New aspen trees usually sprout from the extended root systems of older trees rather than from seeds. Aspen are usually found at higher elevations than at Roxborough. Conditions at this elevation and time have killed this stand of trees. However, there is a larger grove along Little Willow Creek and the Fountain Valley Trail that seems to be still striving.

ASPEN LEAVES AND BRANCHES

YARROW

Aspen require well-watered soil, shelter from wind (provided by the rocks) and relatively deep soil. It is a successional tree, meaning it moves into an area after the original vegetation has been destroyed by logging, fire or road building. There is no evidence of fire or logging at either grove. The large aspens in the Fountain Valley grove are 70-90 years old. The aspens that were once growing here are smaller and probably younger than those in Fountain Valley.

The soft inner bark of Ponderosa Pine, aspen and many other trees was considered "starvation food" by native people and early settlers.

WILD ROSE

Aspen groves typically support a lush ground cover of grass, ferns and wildflowers. Spring flowers here include the mouse-eared chickweed and harebell. Yarrow and wild rose bloom in the spring and early summer, but the plants are recognizable throughout the growing season.

Willow Creek Trail Stop 9

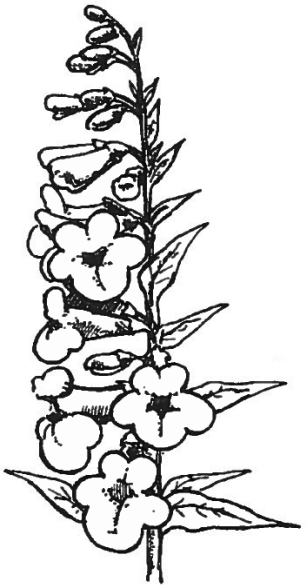
Mountain mahogany is the shrub lining both sides of the trail. It is found in less-dense stands that are separate from the scrub oak. It is a favorite year-round food of deer. Its flowers are inconspicuous but its seeds are unique. At maturity, they look like a feathery corkscrew. After dropping from the bush, the seeds straighten when wet and wind-up again when dry. The successive straightening and twisting enables the seed to drill its way into the ground.

MOUNTAIN MAHOGANY

Native people used mountain mahogany roots to make a beautiful red dye.

The lavender flowers growing among the mahogany during the spring are one-sided penstemons whose flowers bloom on only one side of the bloom stem. The low-growing plants with yellow flowers are stonecrop which blooms during the early summer.

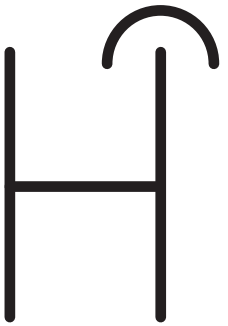
Just a few steps beyond this point the trail branches. The South Rim and Carpenter Peak Trails take the right fork. To continue along the Willow Creek Loop Trail, follow the LEFT fork.



ONE-SIDED PENSTEMON

Willow Creek Trail Stop 10

Before 1970 this meadow was part of a large, working cattle ranch, criss-crossed by ranch roads which are now largely over-grown by cheat grass and thistle.

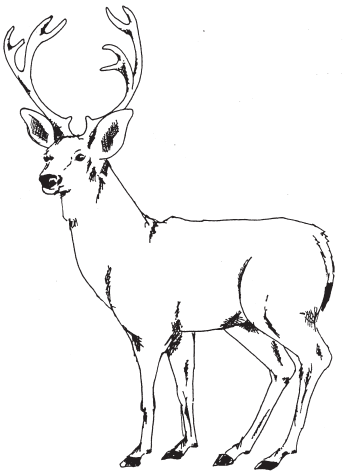


HELMER RANCH BRAND

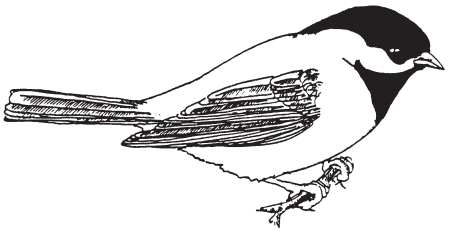
This brand identified range cattle belonging to Toney and George Helmer, owners of the Helmer Ranch, which by the 1960s encompassed most of today's Roxborough State Park. After World War II the Helmer Ranch raised only registered Hereford cattle which weren't branded so as not to spoil their appearance for stock show competition.

The bushes and trees in this old ranch meadow are scrub oak, gooseberry and hawthorn (ahead on right). The grass is mostly cheat grass. As you hike, watch for mule deer crossing the trail or browsing in the meadows. Mule deer prefer to feed on the leaves and twigs of woody plants. Their name comes from their large mule-like ears.

As you walk, listen and you may hear the bubbly serenade of the tiny, brown house wren, or the joyful "Chicka-dee-dee-dee" of the Black-capped Chickadee.



MULE DEER



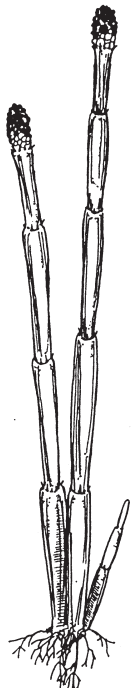
BLACK-CAPPED CHICKADEE

Willow Creek Trail Stop 11

As the trail drops down toward Willow Creek, chokecherry, cottonwood and willow grow on the left. During the spring chokecherry blossoms have a delightful fragrance. Willow Creek, which originates in the foothills southwest of the Park, flows through a cut in the Lyons Formation as it trickles toward the grasslands east of the hogback and into the South Platte River.

Lacking aspirin, native people and early settlers sometimes drank a tea made by boiling willow bark which contains a pain reliever similar to that found in aspirin.

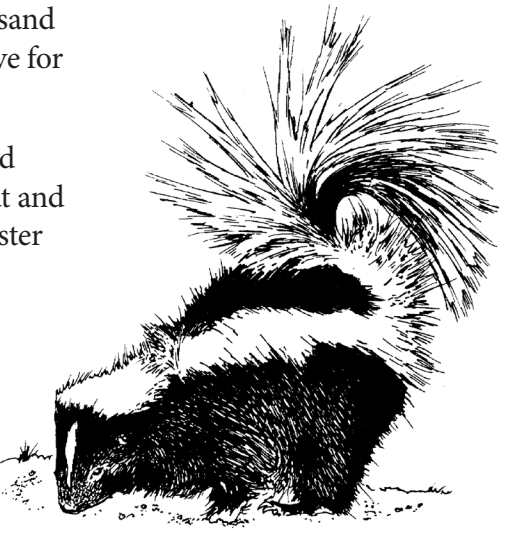
Wild plums grow on both sides of the creek. Like chokecherry, the springtime blossoms of the plum are very fragrant. After crossing the bridge, wild licorice and chiming bells (spring) are on the left, with scouring rush on the right. After the trail turns, more Canada violets (spring) and scorpion weed (late spring) are on the right.



SCOURING RUSH

Scouring rush (also known as horsetail) has hollow, jointed stems with very tiny leaves resembling a ring of tooth-like scales at the joints. No flowers or seeds are produced and reproduction is by spores. The stems contain minute particles of silica sand which make them effective for scouring pots and pans.

Skunks are omnivores and can adapt to what they eat and where they live. This moister environment is attractive to them because of the availability of food and water.



SKUNK

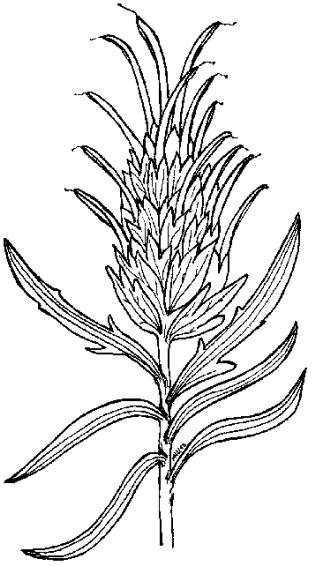
Willow Creek Trail Stop 12

Besides mountain mahogany, several interesting plants are found in this general area, including yucca, Indian paintbrush, yarrow and green gentian (monument plant).

YUCCA

Yucca was used by native people in a variety of ways. The flowers were eaten as a treat. The pulpy fruit was eaten raw or roasted. It was also dried and stored for later use. Young flower stems were boiled and eaten as a sweet treat. The long, thin, stiff leaves were used to make mats and baskets. Roots were pounded and mashed, then used as a soap and shampoo. Yucca flowers can be pollinated only by the pronuba moth whose larvae hatch and grow to maturity feeding only on yucca seeds.

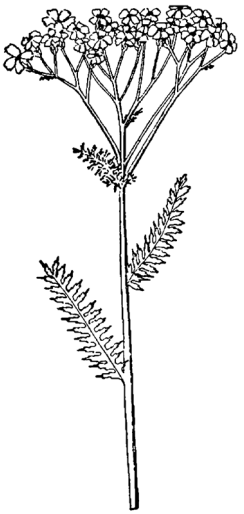
Indian paintbrush is a very colorful plant, growing in sandy, dry soil in many habitats. Some varieties of paintbrush are partially parasitic, growing on the roots of other plants, such as sagebrush, which makes them almost impossible to transplant.



INDIAN PAINTBRUSH

Willow Creek Trail Stop 12 continued

Yarrow may have been the most important medicinal plant available to native people and early settlers. Its dried, fern-like leaves were boiled in water and drunk as a tonic for upset stomach. Its leaves were used to make poultices for rashes and eczema. Headaches, coughs, chills and fever, gout, colic, toothache, burns, cuts and painful areas were all treated with yarrow. It was so effective in stopping bleeding that settlers referred to it as "nosebleed plant." In the ancient world, Achilles used yarrow to treat his warriors' wounds.

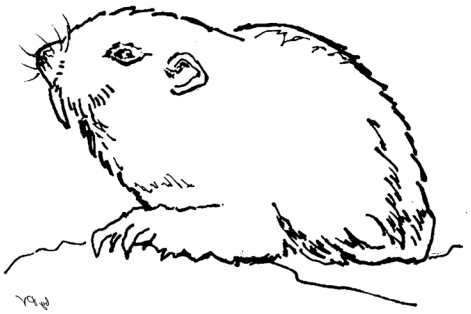


YARROW

GREEN GENTIAN

Green gentian (also called monument plant) is a biennial with a cluster of distinctive strap-like leaves. The second year bloom stem is unbranched and may be from two to five feet tall. The flowers are greenish-white with purple spots. Native people reportedly ate the fleshy root of the green gentian. Elk and cattle will eat the young leaves before the flowering stalk appears.

The occasional piles of dirt were left by pocket gophers, tunneling underground and piling the excess dirt on the surface. Their extensive underground tunnels provide shelter and allow them to eat the roots of grasses and bushes. For this reason, pocket gophers are seldom seen out of their burrows.

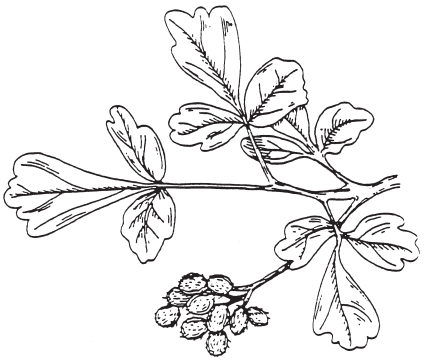


POCKET GOPHER

Willow Creek Trail Stop 13

The white rock beside the trail is limestone of the Lykins Formation. Millions of years ago this land along the Front Range was covered by inland seas and lakes which contained a high percentage of calcium carbonate. Limestone layers were formed when the calcium carbonate precipitate out and settled to the bottom. Over many centuries, the tightly compressed precipitate cemented together forming limestone. These limestone layers alternate with shale, another relatively soft layered rock. Together they make up the Lykins formation.

During a major geological event millions of years later, the Lykins, together with the Fountain, Lyons, Morrison and Dakota Formations, were tilted sharply upward. What we see today are the angled, erosion-resistant "hogbacks" of the once horizontal layers of sedimentary rock.



SKUNKBUSH

WOOLY MULLEIN

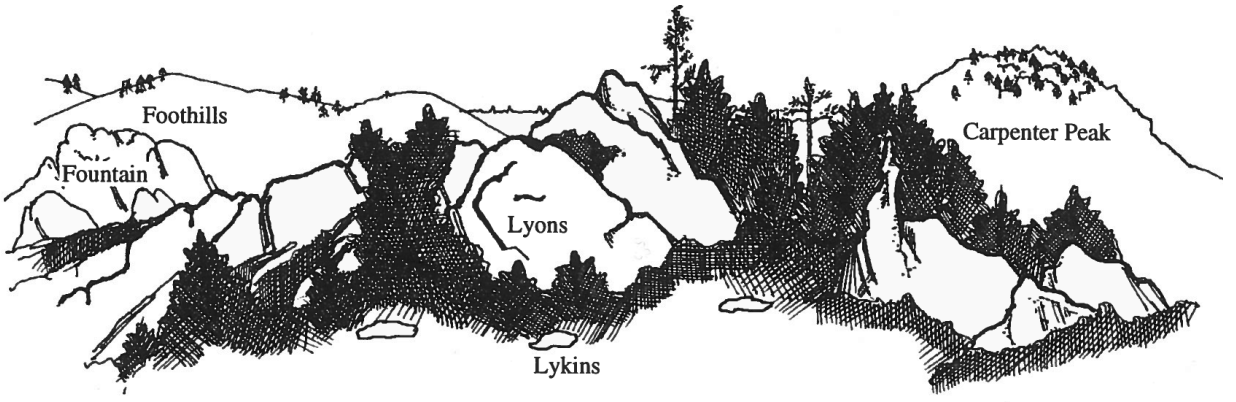
Since it has a high percentage of calcium carbonate (a material found in prehistoric skeletons and shells) limestone reacts with acid. As a demonstration, a few drops of vinegar (acetic acid) poured on a limestone rock will froth and bubble.

A short distance ahead, the trail passes through a thick patch of skunkbush, a member of the sumac family. It is also called "lemonade bush." The orange berries were crushed and used to make a lemony drink!

Wooly mullein is another biennial plant found along the trail. Its second-year flowers on the tall bloom stalk are small and yellow. It is an introduced plant (from Sicily), but native people and settlers quickly learned to put it to use, including a wide variety of medicinal applications. The bloom stalks last through the winter, with the seeds providing food for birds when snow covers the ground.

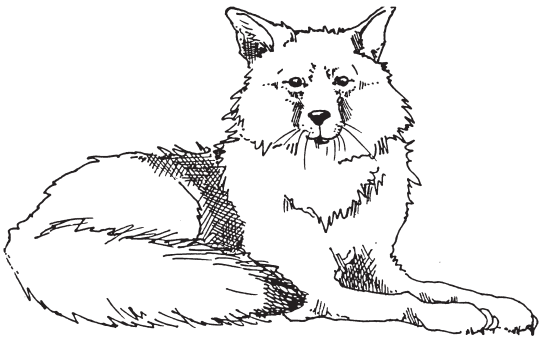
Willow Creek Trail Stop 14

We rejoin the South Rim Trail at this point. Carpenter Peak (7200 feet) is to the west. The "red rocks" are part of the Fountain Formation. The paler sandstones are part of the Lyons Formation and the scattered white limestone rocks are more of the Lykins formation. To the north, in the open valley between the ridges, grass covers the eroded layers of softer Lykins, Ralston and Morrison Formation shale's. Finally, on the right, is the Dakota Hogback where dinosaur footprints have been found.



LOOKING WEST

Fox, coyote, and deer frequent these slopes. We do not often see the fox or coyote, but we know they are here from scat left on the trail. While deer can be seen throughout the day, you're more likely to see them in the early morning or late afternoon.



COYOTE

Willow Creek Trail Stop 15

For many centuries native people have roamed these hills and valleys. They made tools or spear and arrow points by chipping stones atop the Dakota Hogback. They hunted game and gathered around cooking fires in the shelter of the rocks. Rival hunting parties may have clashed on this very spot! There are over 60 archaeological sites have been identified within the Park. Most of the sites had evidence from the Archaic and Woodland/Ceramic periods which date from B.P. (before present) 7500-A.D.1540.

Indian presence came to an end 120 years ago when homesteaders moved into the area and the Indians were removed to reservations. Early in the century this valley along Willow Creek and much of the land that is today's Sate Park were owned by Henry Persse. In the 1920s it became part of the Helmer Ranch.

ARCHAIC STONE POINT

After crossing the Willow Creek footbridge a golden currant bush (yellow berries in season) is to the right of the trail. Small bush-like willows line the creek on the left. A large narrow-leaf cottonwood and several plains cottonwoods (recognized by their heart-shaped leaves) are growing along the creek to the left as the Trail approaches the road.

As you continue toward the parking lots and the visitor center, be alert for birds and other animals. Deer, red foxes, towhees, scrub jays, black-headed grosbeaks and canyon wrens have all been seen or heard between here and the upper parking lot.

We hope that you have enjoyed your hike along the Willow Creek Trail and that this trail guide was helpful. Come back soon and hike the other trails in Roxborough State Park.

Notes:

Flowers and Plants along the Willow Creek Trail

Flowers and plants may be found at locations other than the Stops shown below, but they have been identified near those locations. For more information on selected flowers and plants consult a reference book or booklet. We suggest "Rocky Mountain Flower Finder" by Janet Wingate and "Guide To Colorado Wildflowers" by G. K. Guennel.

PLANTS	FLOWER COLOR	WHEN	WHERE
WHITE:			
Aster, smooth white	White	Aug-Oct	Stop 4
Bedstraw	White	May-Jun	Stop 3
Chickweed, mouse-ear	White	May-Jun	Stop 8
Chokecherry	White	Apr-Jun	Stop 6
Death camas	White	Apr-Jun	Stop 2
Gooseberry	White	Apr-May	Stop 10
Hawthorn	White / pink	May-Jun	Stop 10
Licorice	White	Jun-Jul	Stop 11
Miners candle	White	Jun-Jul	Between stops 14 & 15
Mountain mahogany	White (creamy)	Jun-Jul	Stop 9
Plum, wild	White	Apr-May	Stop 5
Poison Ivy	White	May-Jun	Stop 1 -> 2
Poison hemlock	White	Jun-Jul	Stop 1 -> 2
Raspberry, Boulder	White	May-Jun	Stop 14 -> 15
Raspberry, red	White	May	Stop 13
Sand lily	White	May-Jun	Stop 9
Scorpion weed	White	Jun-Jul	Stop 6
Sego (mariposa) lily	White	Jun-Jul	Stop 9
Violet, Canada	White / pink	Apr-Jul	Stop 12
Yarrow	White	Jun-Jul	Stop 12
Yucca	White	Jun-Jul	Between stops 14 & 15
RED/PINK:			
Gilia, scarlet	Red	Jun-Jul	Between stops 14 & 15
Hedge nettle / germander	Pink	Jul-Aug	Between stops 5 & 6
Indian paintbrush	Red	May-Aug	Stop 12
Rose, wild	Pink	May-Jun	Stop 8
Spring beauty	Pink	Apr-Jun	Stop 1

YELLOW:			
Aster, golden	Yellow	Jul-Oct	Stop 4
Cinquefoil	Yellow	May-Jun	Stop 8
Currant, golden	Yellow (berries)	Apr-May	After stop 15
Golden banner	Yellow	May-Jun	Stop 5
Golden rod	Yellow	Jul-Sept	Stop 8
Gumweed, Sticky	Yellow	Jun-Aug	Between stops 14 & 15
Holly grape	Yellow	Apr-Jun	Stop 2
Mullein, hairy	Yellow	Jul-Aug	Stop 12
Mustard, yellow (winter cress)	Yellow	Jun-Jul	Stop 10
Prairie coneflower	Yellow	Jul-Aug	Stop 13
Prickly pear cactus	Yellow	Jun-Jul	Stop 4
Rabbitbrush	Yellow	Aug-Oct	Stop 13
Ragwort	Yellow	Apr-May	Stop 9
Skunkbush	Yellow	May-Jun	Stop 13
Stonecrop	Yellow	Jun-Jul	Stop 7
Sulfur plant	Yellow	Jun-Jul	Stop 7
Sunflower, small head	Yellow	Aug-Oct	Stop 5
Snakeweed	Yellow	Aug-Oct	Stop 1
Violet, yellow	Yellow	Apr-May	Between stops 14 & 15
PURPLE / LAVENDER:			
Aster, purple	Purple	Aug-Oct	Stop 5
Gayfeather	Lavender	Jul-Sep	Between stops 14 & 15
Horsemint	Lavender	Jul	Stop 4
Larkspur	Purple	Apr-Jun	Stop 1
Thistle	Purple	Jun-Aug	Stop 10
BLUE:			
Blue bell	Blue	Apr-Jun	Between stops 14 & 15
Flax, blue	Blue	Jun-Jul	Stop 12
Harebell	Blue	Jun-Jul	Stop 8
Lupine	Blue	May-Jul	Stop 2
Penstemon, one-sided	Blue	May-Jun	Stop 9
Spiderwort	Blue	May-Jul	Between stops 14 & 15
MISCELLANEOUS:			
Bracken fern	None (spores)	Apr-Oct	Stop 3
Buckwheat, winged	Green	Aug-Sept	Between stops 14 & 15
Green gentian	Green / white	May-Jun	Stop 12
Scouring rush	Cones	Jun-Jul	Stop 11

Thank you to the volunteers and individuals who contributed to this guide.

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